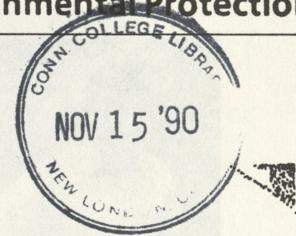


CONNECTICUT



ENVIRONMENT

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Climate Uncertainty

Is Connecticut
getting warmer?

Chris Rowlands 90 ©

September/1990

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Editor's Note

Wherever we are, at any given time, that is our concrete, real connection to every place, to the whole planet, the Universe. So now we stand here, in Connecticut. Connecticut is the ground beneath us, the trees, the water, the air. We can touch all that. In fact, it is impossible *not* to touch all that. We are part of Connecticut. Connecticut flows through us.

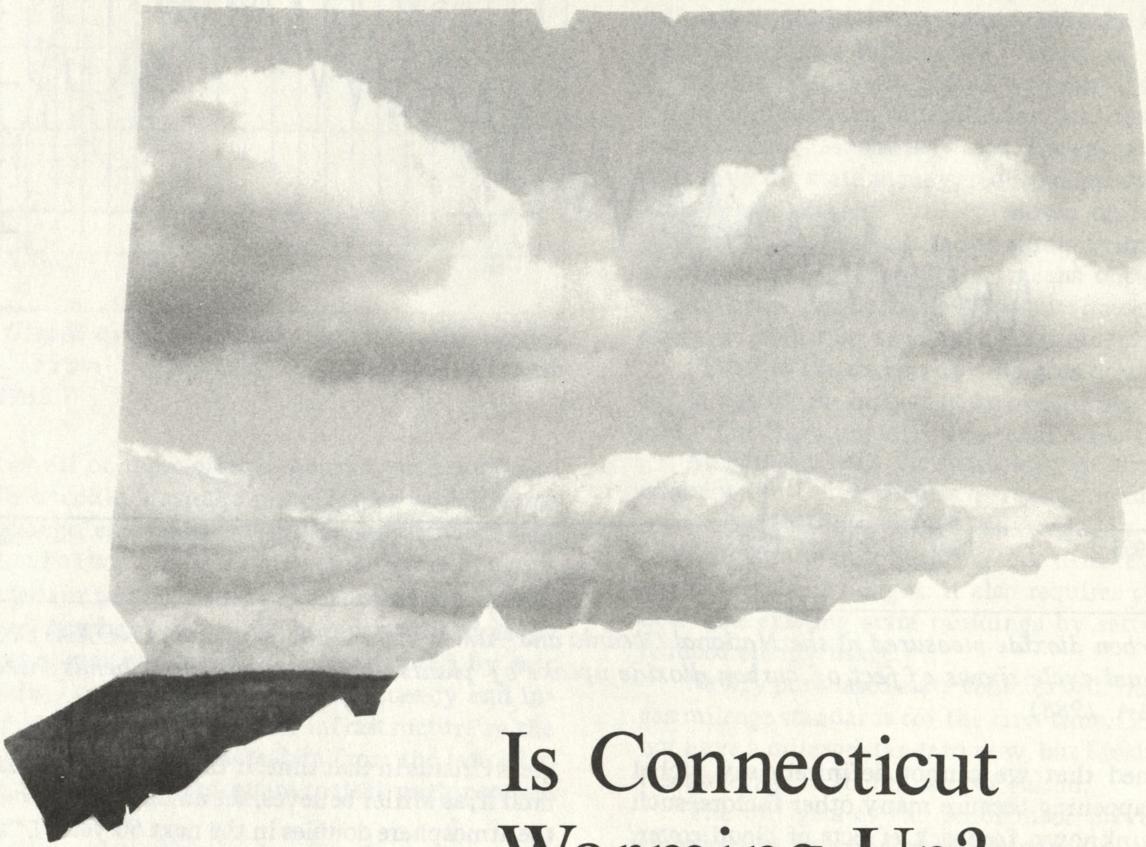
The stronger our sense of place, our sense of immediate contact with where we are right now, with our town, our street, the ground beneath our feet, the stronger is our sense of commitment, participation, and responsibility. It is our hope, in this magazine, that we have intensified that sense of real place, of being part of Connecticut, in our readers.

It also seems, through one of the more mysterious processes of perception, that as we become more directly and intensely in contact with our immediate surroundings -- the details -- we become simultaneously aware of the vastness upon which all the details rest. The more we touch Connecticut, the more we touch the planet, the stars, everything.

In this issue of *Connecticut Environment* we talk about a global phenomenon, something with implications which include and at the same time reach far beyond our state. We will continue to take this broader approach throughout the coming year of publication. It has, of course, always been the case that Connecticut is most fundamentally not separate from the rest of the planet. It's just that now we seem to be more ready to understand that. So, with hope, with a pledge to do just a little more, with love, we dedicate this next year of *Connecticut Environment* to our state and to our planet. May both flourish in health and harmony in the coming year.

R.P.

Climatic Uncertainty



Is Connecticut Warming Up?

by
Julie A. Linden
Environmental Intern

THE EARTH IS GETTING WARMER -- maybe. The popular phrase for this phenomenon is "global warming," but a more accurate description is "climatic uncertainty." Scientists can only make educated guesses about whether the average temperature of the Earth is indeed rising, what would happen if this is the case, and what to do about it. Here in Connecticut, scientists and politicians are already taking steps to deal with something that might or might not be a problem in the near future.

Dr. David Miller, state climatologist and professor of Natural Resources at the University of Connecticut, has sorted out some of the information in a 1989 report entitled *Climate Change: What's in store for Connecticut?* In

it, he distinguishes what is known, what is not known, and what reputable scientists can estimate about global warming.

ONE OF THE THINGS we do know is how the so-called "greenhouse effect" works. Trace gases in our atmosphere act rather like the glass of a greenhouse; they allow solar radiation to come through to the earth and trap most of it here, allowing only a little to be radiated directly back into space. The greenhouse effect is normal and vital to maintaining the Earth's temperature.

However, another certainty is that the concentration of greenhouse gases in the atmosphere is increasing. As the gases build up, they will absorb more radiation and allow less energy to escape from the atmosphere. "In its simplest interpretation, that means things are going to warm up," Miller said.

Of course, scientific interpretations are never simple.

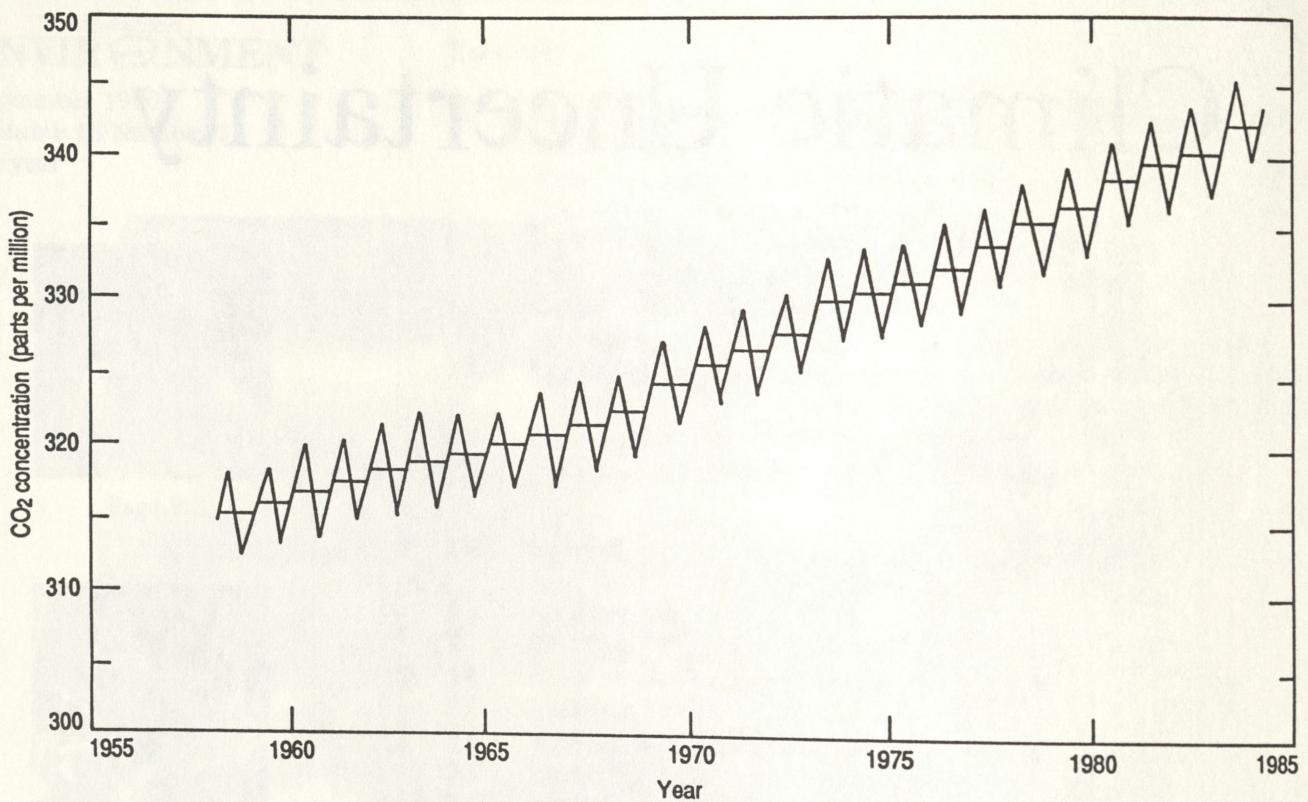


Figure 1. Carbon dioxide measured at the National Oceanic and Atmospheric Administration (NOAA) Observatory, Hawaii. Annual cycle shows effect of carbon dioxide uptake of plants during the northern hemisphere growing season (NOAA, 1988).

Milier explained that we cannot definitely say global warming is happening because many other factors, such as the as-yet-unknown feedback effects of cloud cover, could make a difference, possibly even mitigating the warming effects. The computer models that try to predict climate changes are not yet able to take all factors into account. For now, Miller said, "We know the models are wrong; we just don't know how wrong."

Miller's report points out that we do know what is building up in our atmosphere. The major trace gas that contributes to about 50 percent of the greenhouse effect is carbon dioxide. Other greenhouse gases are methane, chlorofluorocarbons (CFCs, now infamous because of their role in ozone depletion), nitrous oxide (laughing gas) and low-level ozone.

Most likely, these greenhouse gases are building up in the atmosphere because of human activities. The burning of fossil fuels — coal, oil and natural gas — is probably the main culprit. Deforestation is also involved; as trees are cut down or burned (as in the massive destruction of tropical rainforests), they release the carbon dioxide stored in them through the decomposition-respiration and combustion processes.

Miller said nothing beyond these facts is certain, but scientists have good reasons for speculating that the Earth might be getting warmer. His report documents global temperatures over the past 130 years, showing that the average temperature of the Earth has risen about 0.7 de-

grees Celsius in that time. If this warming trend continues (and if, as Miller believes, the amount of carbon dioxide in the atmosphere doubles in the next 50 years), "a conservative prediction is a temperature increase of about one degree Celsius by 2000 and three degrees Celsius by 2050."

The possible effects of such an increase are more uncertain than the actuality of global warming itself. Scientists have speculated about climatic changes, predicting possible disruptions of precipitation patterns. Another concern is that the polar ice caps might melt, which could contribute to a rise in sea levels. Miller said if the temperature increases that have been predicted do occur, the sea level will rise "probably a few inches in the next decade, increasing to a total of two feet by 2050."

THESE THINGS COULD HAPPEN on the planet and in Connecticut, Miller said. He cited as some of the possible physical effects of global warming in Connecticut:

- an increase in winter temperatures (with summer temperatures probably not changing much)
- an increase in the amount of total precipitation
- more cloud cover
- a rise in sea level
- either more or less variability in the climate, meaning either more or less frequent droughts and floods.

Miller thinks variability will probably increase.

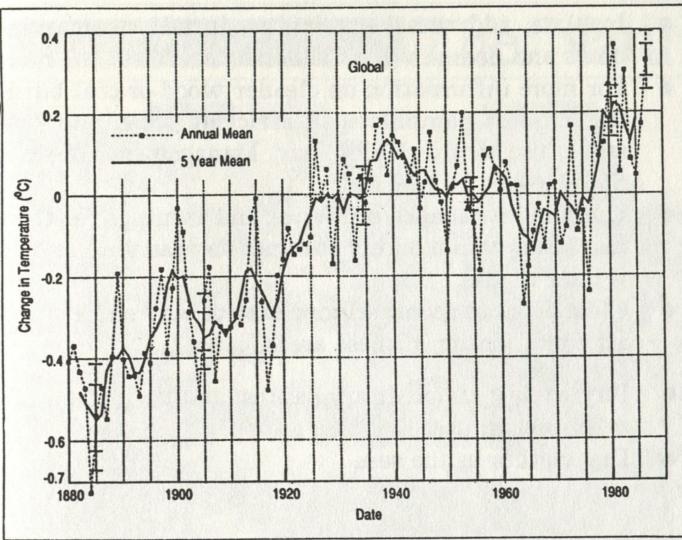


Figure 2. Global average temperature near the earth's surface. (From J. Hansen, et.al., Global Climate Changes, 1988.)

If any or all of these effects occur, a variety of secondary effects could also take place, Miller said. If temperatures change, energy consumption and demand will be affected; what will probably happen is that less energy will be needed for winter heating. If sea levels rise, coastal wetlands and beaches will be lost and part of Connecticut's ground water supply will be infiltrated by salt water. Flooding could also increase in frequency and intensity, and since the water-control infrastructure in the state is built according to climate data from the last 30 to 50 years, it could prove inadequate to deal with possible changes.

Again, these changes are simply educated guesses. Miller said that although nothing is definite, we cannot wait for "perfect" scientific knowledge about global warming to do something about it. "It seems to me we should make decisions on what our best guesses are," he said. The best course is to pursue policies that are not too restrictive, but that are beneficial to the environment even if global warming does not happen, he said. For example, controlling coastal development is something Connecticut should be doing in any case, not just in preparation for possible coastal changes in the event of global warming, he said. Another option is to reduce the amount of carbon dioxide and other trace gases emitted into the atmosphere by practicing energy conservation and switching to alternative sources of energy. Connecticut's contribution to the greenhouse effect may be quite small, and worldwide carbon dioxide emissions are not likely to decrease, Miller said, but these policies make good environmental sense nonetheless.

REPRESENTATIVE Mary Mushinsky of Wallingford agrees. Steps have been taken to deal with the problem in Connecticut, even though global warming is not a certainty and even though, as she puts it, Connecti-

cut is "a gnat on the hide of an elephant." Mushinsky, co-chair of the Legislature's Environment Committee, is the principal author of a bill aimed at reducing carbon dioxide emissions in the state. Despite the fact that Connecticut by itself cannot solve the global warming problem, Mushinsky said the bill is good for two reasons. Since Connecticut is the first state to pass such a bill, others may follow suit, which in turn could make the federal government sit up and take notice. "Many of the president's people don't believe in global warming," she said.

In addition, the bill calls for "old-fashioned energy conservation," Mushinsky said. Energy-saving measures will save the state money, reduce dependence on foreign suppliers of oil, and will cut down on smog — "a real problem in Connecticut in the summertime," Mushinsky said. Conserving energy also means cheaper fuel bills, which helps people in low-income households, and reduces air pollution and acid rain problems.

"Even if the carbon dioxide goes down in Connecticut, it doesn't mean that global warming will stop," she said. "But there are still beneficial effects."

Mushinsky said the main sources of carbon dioxide emissions in Connecticut are vehicles and heated buildings, so the bill focuses on both. Among its provisions, the bill calls for the state building code to be revised to require energy-efficient designs. It also requires conservation in new and existing state buildings by setting targets for reduced energy usage.

Newly purchased state vehicles will have to adhere to gas mileage standards for the first time. Connecticut does not have a mileage standard now, but Mushinsky said the fleet average is 26.3 miles per gallon.

The bill gets at the problem of private sector auto emissions by creating an independent mass transit advocate and instructing the Connecticut Public Transportation Commission to make recommendations on adding off-peak hours transit, adding loop shuttles in the major cities, and increasing mass transit ridership and vehicle occupancy. Mushinsky said now only seven percent of commuters come to work by means other than single-passenger auto.

Connecticut has not taken measures to deal with the problem of global warming if it does occur, but Mushinsky said policies would be adopted in that event. "That's down the road a piece. Maybe it won't happen," she said.

NANCY PITBLADO, planning analyst supervisor at the State Office of Policy and Management - Energy Division, said the steps Connecticut is taking to alleviate the problem of carbon dioxide emissions entail "a lot of the sensible things we've been trying to do for years — again, old-fashioned conservation measures." She said she hoped the global warming issue promoted a greater awareness of the link between energy use and environmental impact, because "so much of our environmental pollution comes from energy use." This link is targeted in Mushinsky's bill; for example, Pitblado said, "it makes such a difference to have our buildings built properly."

Pitblado said utility companies have been encouraged to become involved in conservation efforts. She said it was difficult, but important for state agencies to work together and with the private sector because economic matters and energy concerns are not separate from environmental issues.

She said people are often turned off by the idea of conservation measures because they associate it with deprivation -- keeping your house cold just to save energy, for example. Pitblado said people need to realize "there's a tremendous number of things you can do that won't affect your comfort," such as better insulating your home, or driving a more fuel-efficient car.

Conservation is not the only way of reducing fossil fuel use, she said. The best approach is an integrated one that combines conservation measures with use of renewable, non-consumptive, resources, such as hydroelectric plants and solar and wind power.

Pitblado said the challenge of decreasing fossil fuel use was enormous. "We don't have all the time in the world if in fact global warming is a real phenomenon." Although there are many good plans, putting them into practice can be difficult. However, things can begin on a small level and build from there. "People and states can make a difference, if they put their minds to it," she said.

HUGO THOMAS, chief of the DEP's Bureau of Environmental Services, agrees. "The psychology here is that we are in fact making a commitment," he said. "Connecticut can say we're doing our part. Now what about everybody else?" said Thomas.

Pitblado said, "If Connecticut can demonstrate action to reduce fossil fuel use, then the region will take notice. We get a critical mass, and it's amazing what can be done." Whether or not global warming turns out to be a real problem, "this is an insurance policy that's worth taking out."

THERE ARE, THEN, THINGS that the individual can do to reduce carbon dioxide emissions and to conserve energy in general. Some of the following suggestions originally appeared in *Clean Up Your Act*, a DEP publication, and others are Pitblado's recommendations. They involve both conservation and renewable resources, but they don't have to mean deprivation; as Mushinsky said, "You don't have to live any less well, you just have to be smarter."

In the home:

- Contact your local utility for conservation assistance. You may be able to get a free home energy audit and/or installation of energy-efficient devices.
- Buy an oven or furnace that operates on natural gas (which releases half as much carbon dioxide as oil does).

- Insulate, add weatherstripping, install storm windows and doors in your house.
- For more information on cleaner wood or coal burning, request pamphlets on efficient wood and coal stove use from DEP's Air Management Bureau, 566-7102.
- Use window shades, draperies, and awnings for their insulating value on hot summer days as well as cold winter nights.
- Close doors to rooms seldom used to save on heat and air conditioning in these areas.
- Buy energy-efficient appliances, and turn them off when not in use.
- Dry clothes in the sun.

Water heating:

- Insulate hot water heater and storage tank to help reduce heat loss.
- Minimize hot water use (take showers instead of baths, use water-efficient showerheads, wash clothes in cold water).
- Install a solar water heating system.

Landscaping:

- Trees cut down on home cooling costs. Plant them on the east and west sides of your house for shading in summer and north and west for winter wind protection. If planted strategically to provide windbreaks and solar access, trees can reduce winter home heating costs as well. The DEP Forestry Division sells seedlings from its nursery and can advise about tree-planting (566-4040).

On the road:

- Use public transportation, carpool, bike, or walk. The average car (getting 20 miles per gallon) exhausts one pound of carbon dioxide for each mile it travels.
- Purchase a car with high gas mileage (at least 35 mpg).
- Keep your car tuned up and running well.
- Plan your errands to cut out extra trips.
- Don't let car idle for more than a minute.

Spread the word.

- Make concerns known to others and to elected representatives.
- Request retailers to carry energy efficient products, to minimize packaging, and to observe environmentally acceptable practices.



The Tift Pond in fall, formed in the mid-1800's as a reservoir for Hanks Hill Silk Mill, one of the first silk mills in America. It is one of the many lovely spots at the Albert E. Moss Sanctuary in Storrs. (Photo by Robert Bottino)

A Visit to UConn's Albert E. Moss Sanctuary

by

Carol K. Davidge

Public Information Coordinator
Connecticut State Museum
of Natural History

FIFTY YEARS AGO, the junction of Routes 195 and 273 in Storrs was an open field. But in 1932, in commemoration of the 200th birthday of George Washington, a University of Connecticut forestry class, taught by Albert E. Moss, planted the field in white and red pines. Today the pines are 80 feet high, and form a majestic canopy entrance to the Albert E. Moss Forest, Wildflower, and Wildlife Sanctuary.

This Sanctuary was dedicated Earth Day weekend, April 21, 1990, after the Board of Trustees of the Uni-

versity of Connecticut committed 157 acres of University land for the general public. The land offers a wide variety of native species of ferns, wildflowers, trees, and shrubs. Some trails exist, and more are being planned, along with additional plantings of native species. UConn students will be involved in all phases of the future development of the Sanctuary, under the guidance of UConn's Department of Renewable Natural Resources in the College of Agriculture. Activities of the Sanctuary are the responsibility of an eight-member voluntary advisory

committee.

David Schroeder, head of UConn's Department of Renewable Natural Resources, and Mary Sherwood (UConn '34) began working to have the land preserved in 1986, along with Deans Hugo John and Kirvin Knox of the College of Agriculture and several members of Sanctuary Advisory Committee. The land was named for Albert E. Moss (UConn '05), one of America's first forestry professors, who taught at the University from 1914 to 1942 and died in 1988 at age 101. "It's there for people to use, and hopefully it will

be there for people to use for a very long time," said Schroeder.

For many years the area known as the "Washington Forest," previously a farm, has been used to teach students about forestry and wildlife. Trails run through diverse habitats, both high and dry and low and swampy, including through meadows and alongside a pond. In addition to the red and white pines, the Sanctuary is home to an extensive stand of northern white cedar, which is usually found only in northwestern Connecticut and farther north. Many birds populate the preserve, especially around the pond. "A quiet, natural setting which seems far removed from the densely populated nearby area," is a description from a 1987 proposal to save the land rather than build on it, and in 1990 it remains a quiet spot except for the sounds of birds and bullfrogs.

FOR UCONN EDUCATORS, the Sanctuary is within easy walking distance. "Without the Sanctuary, we'd have to take our classes to northwestern Connecticut to see northern white cedar -- a two hour drive -- which isn't easily done during a three-hour lab," explained Schroeder.

Classes in forestry, forest inventory, tree and shrub identification, and wildlife ecology and management have been held in the Sanctuary. "I use it in some of my labs to illustrate shrubs that are characteristic of a shrub-swamp, a particular type of wetland, and can show about a dozen wetland shrubs. Button bush, spice bush, and speckled elder are shrubs which, if you see them, you can be almost certain that you're in a wetland," said Schroeder.

Many birds live in the Sanctuary, according to ornithologist and Sanctuary Committee Chairman Robert Craig. "In spring and fall you may find a green heron on the pond. Ducks that like woodland ponds, such as wood ducks, black ducks, golden-eye and ring-neck ducks, stop there. Most of the Sanctuary is forest, where you'll find thrushes, flycatchers, such

as the great crested flycatcher, vireos, probably a pair of red shouldered hawks, a great horned owl, and perhaps a broad winged hawk," said Craig.

The pond, known variously as Tift's Pond, Sullivan's Pond, and Jimmy's Pond, was created around 1848 as an auxiliary reservoir for the Hanks Hill Silk Mill, one of the first silk mills in America. According to local historian Roberta K. Smith, the pond should be known as "Hanks Reservoir." In 1840, 140 acres of the current sanctuary land was purchased by Baruch Southwick and Sanford Tift. In 1848 George R. Hanks purchased two acres of the Tift property to build a dam and create a reservoir for the silk mill which is across Route 195 on Hanks Hill. Hanks also purchased from Baxter Hall a few acres of brook and swampland that adjoined the pond. In 1874, the Tifts sold the farm to James O. Sullivan, but the pond remained in the Hanks family until 1945. UConn acquired the pond in 1952. Since neither Sullivan nor Tift ever owned the pond, it seems strange that it has been named for them.

Around the pond are many wildflowers, the first love of Mary Sherwood, America's first woman forestry graduate, a wildflower propagator, and one of the primary forces behind the creation of the new sanctuary. She was a student of Albert Moss and helped plant the pine trees in the Sanctuary in 1932.

A mid-summer tour of the Sanctuary, guided by Sherwood, offers nature as wonderland. One learns that a skunk cabbage plant can live to be over 100 years old, that Indian pipes and most wild orchids can't be transplanted, that sumac is known as "starvation food" because birds will eat its fuzzy seeds only when desperate in winter. Beside the trail is a natural wildflower garden of princess pine, Solomon's seal, starflowers, dewberry, wild lily-of-the-valley, and pipsissewa, an Indian name.

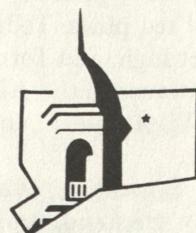
Sherwood calls a large tree in a young woods a "nurse tree" because it originally grew in a sunny field and

provided shade for cattle, but when the field was abandoned, the plants that need shade to grow, such as hemlock and maple-leaved viburnum, began to grow. Now the large tree is entirely surrounded by smaller ones. You learn about an "old field ecosystem," now overgrown with shrubs such as bayberry and highbush blueberry, which soon will be overwhelmed by forest.

This fall, Mary Sherwood, Roberta Coughlin, and Vicki Wetherell -- all members of the Sanctuary Committee -- will collect seeds to help complete a record of plants that grow there. These records will make an interesting comparison to a 1936 inventory of plants and animals by Mary Sherwood.

Connecticut plants that are not at present in the Sanctuary, such as black and red spruce, will be added, according to Schroeder. Native wildflowers are being added by Mary Sherwood and volunteers of Connecticut Museum of Natural History, using plants donated by Arthur Manthorne of Woodstock. "We plan to have as many of the plants of Connecticut as will grow there," said Byron Janes, a long-time Sanctuary Committee member.

Members of the Sanctuary Committee are: Chairman Robert Craig, Robin Chazdon, Brian Christoff, George Cloutier, Roberta Coughlin, Sam Dodd, Byron Janes, David Schroeder, Mary Sherwood, and Vicki Wetherell. Past committee members include Robert Bottino, Sandy Eck, and Lois Kelley. Support for the sanctuary has been provided by the Moss family, and others. Contributions may be made to the UConn Foundation and mailed to David Schroeder, Department of Renewable Natural Resources, UConn Box U-87, Storrs, CT 06269-3087.



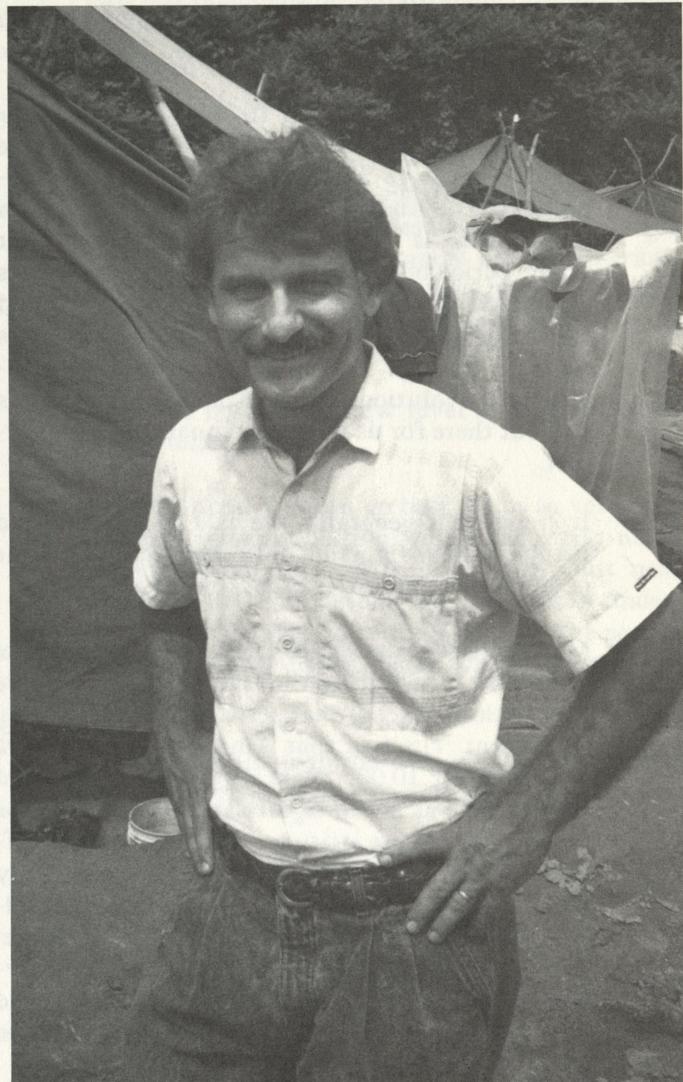
Meet the State Archaeologist

(The following interview with Connecticut State Archaeologist Nick Bellantoni from the Connecticut State Museum of Natural History at The University of Connecticut was originally broadcast as part of the Environment television series.)

CE: What is archaeology?

NB: Archaeology is the systematic study of the material remains that past cultures have left behind. Archaeologists analyze this material to interpret the past. We're like detectives. We take clues, the bits and pieces that have been left, and try to interpret the human behavior behind the artifacts, behind the structure. And it's quite amazing, the amount of information that can come out of these remains with proper techniques.

CE: Don't we generally think of archaeology as a pure academic science rather than as a practical matter?



State Archaeologist Nick Bellantoni has been preserving and protecting Connecticut's past for three years. (Photos: R. Paier)

NB: I think it used to be more purely academic. But now we're finding that there has been such an adverse impact on archaeological sites around the world, including Connecticut, that we're losing so much of our past. It is for that reason that the role of the state archaeologist has been created — to preserve the archaeological heritage of Connecticut. The job has to do with everyday problems, the problems of economic development, and problems that are hitting all of our communities.

CE: Do you see your job as indicative of a general growth of environmental awareness?

NB: Definitely. People should think of natural and cultural resources as being similar. There's difference in their scopes, but both clearly define the history of the towns, the history of the state, what makes this a unique place.

CE: Then you balance continuing development with respect and preservation of archeological remains.

NB: That's exactly true. From 10,000 years ago, after the glaciers had receded, we have records of the very first native Americans, or Indians, in Connecticut. The earliest dated archaeological site in Connecticut is around 10,000 years old. That whole period of history is recorded — not in books on shelves, but in the earth — with the artifacts and the campsites and the villages. This history goes right up through the Colonial Period and the Industrial Revolution here in Connecticut. And it's still out there for us to recover, analyze, and interpret.

CE: It seems that generally we in Connecticut, and maybe in New England, only think back a couple of hundred years. After that, things get murky.

NB: Most of us have descended from recent immigrants who came over within the last 350 years, and we tend to think only of that period of history as being significant. The fact that American Indians have been here for 10,000 years isn't well known and strikes some as not so significant. I think this has to do with a racist attitude. The Indians were different, a different culture, different people. They were stone tool users. Early English settlers considered the Indians barbaric and savage. And of course, those were very biased and ethnocentric viewpoints. But clearly the history of the peoples who were here is very very significant and should be preserved.

CE: Why do you think it's so important to be in touch with that history?

NB: I think it makes us more aware of where we are in the world. We have a unique history, just like other places have unique histories. And it is very significant. The scientific community finds the archaeology of Southern New England, for example, very significant.

CE: I am surprised to hear you say that. Don't most archaeologists gravitate toward the Southwestern states, where you can see the ruins right out there? We don't think of Connecticut as being archaeologically rich.

NB: I think that's true, but I think unfortunately sometimes people in Connecticut don't even think about our written history as being rich. Connecticut history is very rich, as is our prehistory. The history is here, the uniqueness is here. I would say this about the archaeological resources — they're down the street and beneath your feet. They're down there, and there's a story to be told. And because

"Our rich archaeological heritage is right here. It's down the street and beneath your feet."

Nick Bellantoni

that history is very fragile, it could be lost very easily. We lose about 120 known archeological sites a year in Connecticut.

CE: How do you go about saving an archaeological site?

NB: As far as the Office of State Archaeology goes, we work with towns, town officials, planning and zoning commissions; we work with developers and lawyers and engineers, people who are making land use decisions at the local levels. We try to instill an awareness of the resources of their community. We work with development projects to find out what archaeological sites may be in the project area. We work together as partners in preservation to preserve those resources.

CE: Partners rather than antagonists. Could you give an example of how you actually operate?

NB: Basically, I go to the town and explain the resources that are there. I try to be as specific as possible as to how old the sites are, why they're important. Then I work with the planners to see how the development is designed. In some cases, in subdivisions I've had the roads redesigned to go around archaeological resources and preserve them as open space. In other projects we've had historic preservation easements established for those particular sites so that nothing would happen to them. If all of these buffers failed, if the site can't be redesigned and the site will be destroyed, then we ask for time for the archaeologists to go in and do a proper scientific

excavation and remove the remains from the ground. This preserves the knowledge that's there.

CE You mentioned that there actually are ghost towns here in Connecticut.

NB: The history that's in the ground is not just the prehistoric native American history. Early Colonial settlers have also left their mark. The early industrial centers — the grist mills and the saw mills — were the very first centers of the towns that they were developing. Through the last two or three centuries, the economic centers of all of our towns have shifted and what remains are the ruins — stone cellar, the ruins of the mill itself. Where there was a three-story mill and house, now all you see is a stone foundation. But the artifactual remains are still there and these ghost towns are often still there. You could walk through the woods and just all of a sudden stumble upon a whole community.

CE: Are there many?

NB: Probably well over a dozen, and we could probably identify even more than that.

CE: I suppose you don't want their locations to be generally known.

NB: We don't like to disclose the actual location of sites for fear of vandalism. But they are literally all over.

CE: Is vandalism still a problem?

NB: Unfortunately there is a black market in antiquities across the United States. People will dig up Indian artifacts to sell. They will go into burial grounds to sell the artifacts. And it's not just Indian remains. I have been to historic cemeteries that are now wooded areas or have been abandoned, ancient burial grounds, and I have seen where tombstones were removed. There's a market around the New York area for New England tombstones and some people are coming in and removing the tombstones from our ancient burial grounds. And I have also seen Colonial burial sites where people have dug down to remove buttons and belt buckles of the dead. There is antiquity in these things and there is a market for that. And unfortunately people are going after that market.

CE: Even today in 20th century Connecticut, grave-robbers are still plying their trade. To what extent are you involved in Indian burial sites?

NB: Today, no professional archaeologists would seek to excavate burial remains. The only time we exca-

vate is if they were definitely going to be destroyed and there is no other alternative to stop destruction. And then we do it in cooperation with the contemporary Indians, the tribal representatives of the particular area that we are working in. This year, the Governor's Legislative Task Force on Indian Affairs was able to get legislation passed providing for a procedure and penalties for the disturbance of any human remains, especially native American Indian remains. So we have a very good mechanism now, a statutory mechanism to protect these burials.

CE: Does this represent a new level of awareness and understanding.

NB: It really does. You can go back 10 or so years and archaeologists and native Americans really never communicated well with each other. But now members of the archaeological community understand that we have to be responsible to the people, the descendants today. Their wishes must be respected.

CE: You mentioned that you thought the time is right for a growth of archaeological awareness.

NB: In the last decade, we've had so many changes in the state of Connecticut. As we keep going forward, we lose more and more of the past. And as a result there is feeling out there to preserve what we can. Is there a mechanism to do this? Our office is that mechanism.

CE: It's not an accident that Connecticut has decided to fund a state archaeologist right now.

NB: No. Actually it was the result of a great lobbying effort by many preservation and environmental organizations, and I think the time was just right. Our office was established in 1987, only three years ago. But the time was right.

CE: Do you encounter people who think having a state archaeologist may be a luxury in these times of deficits?

NB: I said earlier that we are losing 120 known archaeological sites a year. An archaeological site can be 5,000-6,000 years old right beneath our feet. It only takes a backhoe 15 minutes to plow through it, and it's lost forever. The point is, let's not lose that. At the rate we're losing archaeological sites today in Connecticut, we will probably exhaust most of our entire heritage by the turn of the century, a short decade away. Then when it's gone, somebody is going to call us to task and say, "Why wasn't this material preserved? Why wasn't this knowledge here for us? Why can't we learn about our past?"

CE: Do you think that trend has been reversed since you've been on the job?

NB: Last year our office worked on and commented on 150 construction projects. That means we were able to have input at the local and state levels to give an archaeological assessment of the properties and preserve the sites that are there. I just don't know what that means. One hundred and fifty is a lot. But how many construction projects were actually going on in the state of Connecticut? Could there have been 1,000? And if so, 150 was only 15 percent. So if we lose 120 sites a year, I hope we have been able to save 15 percent of that. There's still a long way to go.

CE: Do you encourage people to call on you?

NB: Definitely. People can call me at the Connecticut State Museum of Natural History at the University of Connecticut: 486-4460 or 486-5248. We keep comprehensive files and maps on all the archaeological sites in the state. The more sites we're aware of, the more sites we can preserve. So if people know of archaeological resources, I would appreciate hearing from them.

CE: And also you go out and talk to groups throughout the state.

NB: Yes. Preservation is not just working with land use decision makers. Preservation is also educating the public. I used to teach at The University of Con-

nnecticut. Now I teach in town halls, in construction site trailers, to local groups. Creating public awareness is a very important goal.

CE: What exactly does preservation mean to an archaeologist?

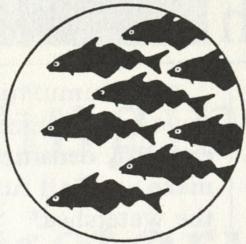
NB: In terms of archaeological resources, preservation can be multi-faceted. There are many ways of achieving it. First, we can leave the site alone. We design the project around it. At the rate we're losing sites, there just aren't going to be archeological resources here for future generations. And I want to preserve them. I'd rather not excavate, but preservation can be excavation. We remove the artifacts from the ground and preserve them as much as possible. As long as they are removed in a scientific, controlled fashion, it allows us to interpret them.

CE: What finally do you want the citizens of Connecticut to know about our archaeological heritage?

NB: I want them to know that it's here, that the history of Connecticut is not written in books completely. A lot of information is right in the ground, right beneath our feet. It's fragile, it can be destroyed very easily. But there are ways of preserving and protecting it and learning from the bits and the pieces. Remember that archaeological sites are right here and that they need to be preserved.



An archaeological dig at Windsor near the Connecticut River. Excavations are carried out with care and respect for ancient people.



Coastweeks '90

September 15, 1990 - October 8, 1990

by
Sarah Wade
Long Island Sound
Public Outreach Coordinator

DESPITE SOME STORIES to the contrary, the resources of Long Island Sound are still vital and abundant. To be sure, the Sound requires careful protection, but anyone who has recently made a trip to the beach or fished in this body of water understands the value and beauty of the marine environment in Connecticut remains in good health. There are, however, several large-scale projects under way to assess the problems in Long Island Sound and recommend action to restore it to better health. There is also a multitude of smaller activities that each individual can undertake to benefit the Sound. Coastweeks '90 is a

time for everyone to celebrate the wonders of the coast and at the same time learn more about individual activities to protect this precious environment.

Coastweeks '90 takes place between September 15 and October 8, 1990. Event coordinators, Connecticut Sea Grant College program and the Connecticut DEP, are in the process of compiling a calendar of events taking place during the celebration. For copies of this or for further information on Coastweeks '90, contact Peg Van Patten at Sea Grant (445-3459 in Groton) or Sarah Wade at the DEP (566-5524 in Hartford).

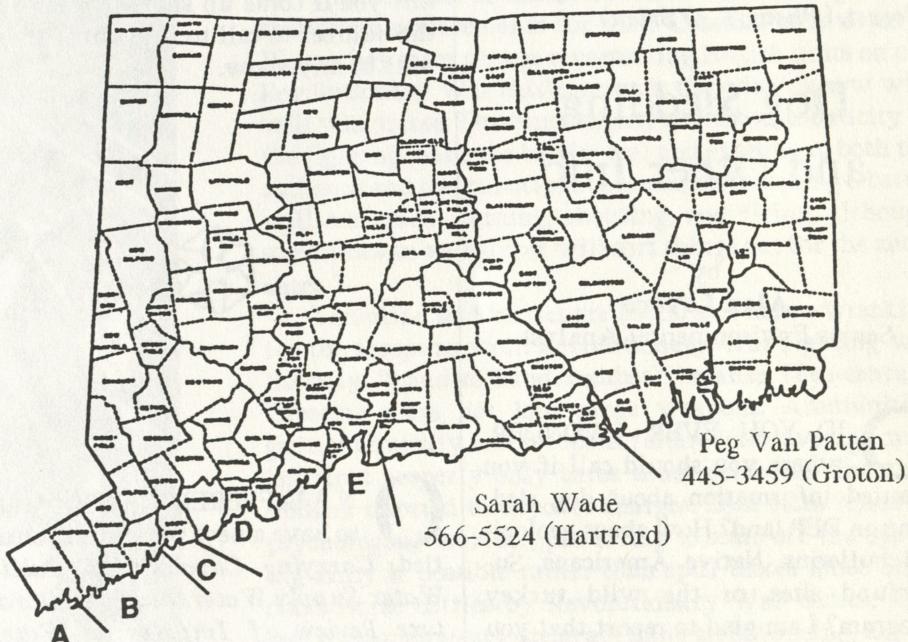
A
Rick Schreiner
327-9786 (Stamford)

B
Debbie Rooney
852-0700 (Norwalk)

C
Malsa Tisdale
333-8744 (Bridgeport)

D
Peter Holm
874-8675 (Milford)

E
Laura Norwitz
865-1737 (New Haven)



Beach Cleanup Day

IN ADDITION to the activities planned during Coastweeks '90, September 22 has been designated as National Beach Cleanup Day. On this date volunteers will gather on their favorite beaches to pick up trash and compile information on the volume and variety collected. This data will be entered into a national database in Wash-

ton, D.C. Last year over 500 volunteers collected more than 6,000 pounds of trash on the Connecticut shoreline. If you are interested in participating in Beach Cleanup Day, call the coordinator for your favorite beach as indicated in the map above.

Map of the Month



Dog sled racing at Pachaug State Forest. (Photo: T. O'Brien)

Dog Sledding and Other Info

by
Alan Levere
Senior Environmental Analyst

Did you ever wonder where you should call if you wanted information about dog sledding on DEP land? How about geological bulletins, Native Americans, Superfund sites, or the wild turkey program? I am glad to report that you can now find out the telephone numbers, not only to these head-scratchers, but to about 900 others besides.

Thanks to the recent publishing of *A Listing of Environmental Permits, Licenses, and Programs of the Connecticut Department of Environmental Protection*, (known generally as the *Permit Guide*), all types of far-reaching information can now be quickly referenced. The first section is the Program or Subject Guide. It lists the addresses and phone numbers for

the large array of subjects already described. It spans about 50 pages.

The second section is a guide to Permits and Licenses. We tried to be as specific as possible in the listing of regulated, permitted, or licensed activities. But since there are over 500 pages of state statutes relating to the environment, there was no way they could all be represented in this 24-page section.

The last section of the book is the List of Agencies in the DEP and various other state and federal entities. These also include phone numbers. There is a DEP organizational chart and a handy one-page Citizen Environmental Information reference sheet to top it off. It is spiral bound, 8.5" x 11" format, and sells for \$92.

Oh, yes, the phone number for the dog sledding is on page 11 of the Guide. But you'll come up short looking for the number to call to find out if there will be any snow.



ON A DIFFERENT NOTE, we also have a new publication entitled, *Carrying Capacity of Public Water Supply Watersheds: A Literature Review of Impacts on Water Quality from Residential Development* (generally known as *Carrying Capacity*). The study was initiated to evaluate the most desirable density of residential development in these watersheds based on environmental criteria. Thus, the activities typically associated with this development are addressed: septic systems, soil erosion and sedimentation, construction related impacts, and the impacts of storm water and non-point discharges of pollutants.

The cumulative effect of land use must be scrutinized closely, not only to establish densities, but to assess the make up of all future land use within the watershed.

Carrying Capacity is over 200 pages in length. The first 130 pages are the main text which includes such chapters as: Impact of Individual On-Site Sewage Disposal Systems on Groundwater and Surface Water Quality, Incidental Non-Point Source Discharge of Pollutants Associated with Residential Development, Impacts and Mitigation, and Construction Related Erosion and Sedimentation. Each of the chapters is followed by three to five pages of references.

The 12 appendices add greatly to the book because of their diversity. The appendices alone could stand as a substantial reference with titles such as: Model Oil-Based Zoning Regulations to Assist in Determining Minimum Lot Size, Non-point Source Pollution Control: Best Management Practices, A Hierarchy of Land Uses Based on Groundwater Contamination Potential, and Reported Salt Tolerance of Selected Plant Species. It is available in 8.5" x 11" format and sells for \$16.00.

I'm not going to say that the *Permit Guide* should be useful to just about everyone involved in the environmental field and that *Carrying Capacity* should be a great tool for all those involved in land use planning and development because, obviously -- it should go without saying.

To order please include \$2.00 for shipping and handling per order (\$1.00 if you order only the *Permit Guide*) and eight percent Connecticut sales tax. Our address is: DEP-NRC, Map Sales, Room 555, 165 Capitol Avenue, Hartford, CT 06106.



Bringing History to Life



Sheldon's Horse, Second Continental Light Dragoons, will reenact a Revolutionary War battle at the Putnam Memorial State Park Encampment. (DEP file photos)

by
Julie Linden
Environmental Intern

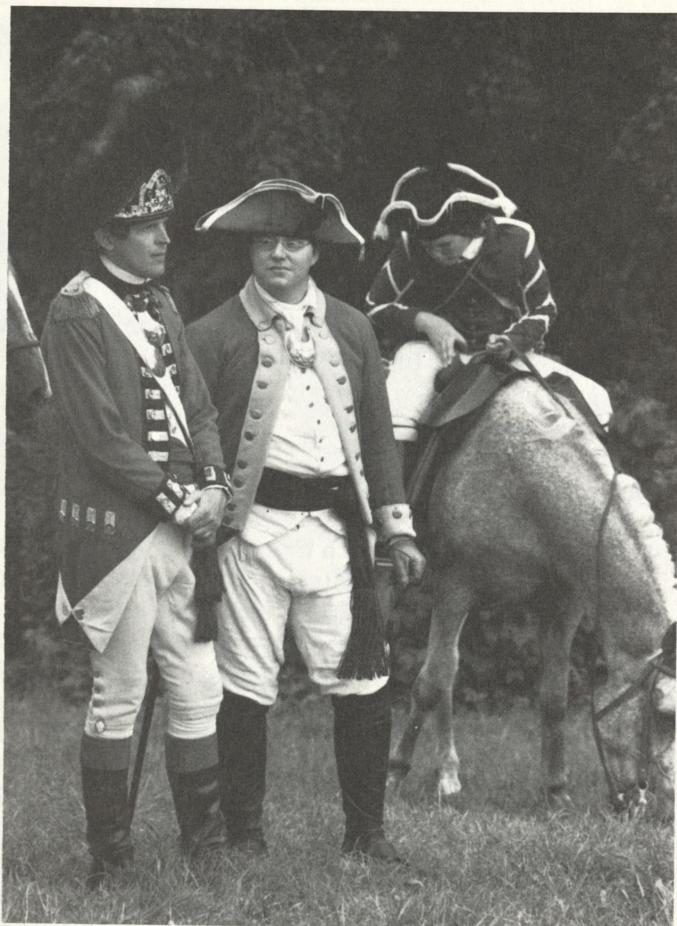
SAL TARANTINO uses words like "we," "us," and "our unit" when he talks about Sheldon's Horse, the Second Continental Light Dragoons. Tarantino is captain of a group that he said is not just patterned after the Revolutionary War regiment: "We *are* that regiment."

Tarantino and 18 others faithfully reproduce Sheldon's Horse, a Connecticut cavalry regiment active under General George Washington from 1779 to 1783. They don woolen uniforms that match the original designs down to details of buttons and stitching, pick up weapons that are just slightly more modern (because they're safer than 18th-century firearms), and charge with their horses onto battlefields to recreate history for themselves and audiences. In September they will join nearly 50 other units at the Putnam Park Encampment in Redding, Connecticut, for public demonstrations, a parade, and two battles.

The members of Sheldon's Horse train and fight as if they were replacements for their Colonial counterparts. When they meet groups representing British units on old Revolutionary War battlegrounds, they don't know who will win or lose. That uncertainty and the authenticity of the fighting make the battles real and exciting to both the audience and the participants. Someone watching a battle will see much running, shouting, and firing, although sometimes an announcer will sort things out for the audience.

Tarantino said battles are hectic and nerve-wracking for the troops as well. Revolutionary War fighting was literally "hand-to-hand combat" because 18th-century firearms were not long-range weapons. Ammunition gave out quickly and weapons faltered; the average musket fired properly only three times per battle and then soldiers resorted to bayonet charges. Both sides relied on psychological warfare, preferring to scare off the opposing army if possible rather than spill blood. Since Sheldon's Horse battles by Revolutionary War tactics, they feel the same sweaty dread at facing an advancing, unpredictable enemy, Tarantino said. By the end of a battle the field is strewn with "dead" bodies and one side is retreating in disarray.

Despite the mess of soldiers and horses, "It's not dangerous if you practice," Tarantino said. The regiment's intensive preparation means unpleasant surprises during battle are kept to a minimum, but now and then something unexpected occurs, as when Indians from a nearby Mohawk reservation intruded on one program in upstate New York. Such situations demonstrate the importance of well-trained troops and horses. In 12 years of battles, not one member of Sheldon's Horse has been seriously injured, Tarantino said.



Revolutionary War officers discuss strategy. All details are as historically accurate as possible.

The women in the unit are critical to safety. Because of the insistence on authenticity they do not fight, but they venture onto the field during battles to tend to anyone who might be wounded and to bring water to hot and stressed troops. "We depend on the women 100 percent," Tarantino said, noting that women actually performed the same roles in the original Sheldon's Horse and were given an equality with the private trooper in the regiment.

SHELDON'S HORSE also participates in exact re-enactments of battles; in these cases, they know who wins and what each troop does. "We don't change history, we don't change the facts," Tarantino said. Getting all the details right is difficult. "You have to put the time in to study it and learn it, and then you go out and do it," he said. But when Tarantino and his fellows "go out and do it," they are so immersed in the past that it is more like a re-living than playing a part. "You're literally transformed," he said.

This gives both the members of Sheldon's Horse and the audience watching the programs a new sense of Connecticut history. Tarantino considers this educational dimension to be "the whole point of what we're doing today." He first became involved with recreating history

15 years ago, as a schoolteacher looking for a way to make Connecticut's Revolutionary War experience vital and interesting to children. "Everyone hears about Philadelphia, or Massachusetts, and the minutemen," Tarantino said, but he found that even some Connecticut adults are ignorant of their state's role in the war. He decided he wanted to personalize Connecticut's history for its citizens to foster state pride.

Sal Tarantino is no longer a schoolteacher, but he is still an educator. Sheldon's Horse does programs and lectures in schools, for veterans' groups, and at historical societies. They do not just teach history in a lively way; they also present war as so serious and deadly that alternatives to it as a problem-solver must be sought. "We try to use what happened in the past to teach a lesson for the future," Tarantino said. He said it is most important to bring that lesson to children. While they can learn about war "in a non-threatening environment," they can still recognize it as a reality because it is a part of their state's and country's history. A videotape of a program done at the Brookfield schools in 1988 shows that the message gets across. In one clip, a uniformed soldier stalks a row of children with a bayonet; they squeal and cower until he stops and calmly tells them, "That was a bayonet attack. You would not have survived."

Tarantino also has videotapes of the unit's trip to France in 1988, where Sheldon's Horse participated in a huge celebration of the life of Rochambeau, the commanding general of the French force in Connecticut. They and a thousand others performed at night on a one-mile long "stage" on the Rochambeau estate. "It was crazy, but thrilling," he said. The unit would like to return to France next March if they can afford it, Tarantino said.

Affordability is always a factor when the regiment considers what programs to attend. Sheldon's Horse is a non-profit group that operates on about \$3,000 per year, which is completely donations from interested groups. Because of what Tarantino called the "volunteer-intensive" nature of the group, the members are able to do a lot with little money. "We travel where we can to do the shows," he said. "Everything is done at our own expense."

Like Tarantino, a Bridgeport resident, most of the members live in Connecticut, but some are from as far away as Wisconsin and Montana. Their commitment to Sheldon's Horse proves that working with the regiment is "not just a hobby, it's a very closely-knit family, and we're very military," he said. "I'm proud of the people we have." He has reason to be. The unit has won numerous awards, including First Place for Best Parade and Drill Unit at the Army Armed Forces Day in 1988, and the First Place for Best Drill at the Yorktown competition for three consecutive years.

TARANTINO'S PRIDE IN HIS REGIMENT extends to its history. He said it was the only cavalry raised by one colony completely and that the men of the regiment

were the closest to General Washington during the war. Although Tarantino could tell you a lot about Sheldon's Horse, there is plenty still to be learned. "We have just finally broken through the surface of the research," he said. He recently finished transcribing a 200-year-old manuscript detailing daily workings of part of the unit and is now trying to get funds together for a computer and printer to send it to a publisher.

Sheldon's Horse does not rely on only military research but also details of 18th-century lifestyle. One of the features of the Putnam Park Encampment is a colonial-style camp. The regulations sent to participating units specify "NO ANACHRONISMS OF ANY KIND IN CAMP. PLEASE LEAVE YOUR SNEAKERS, PLASTIC AND SUCH ITEMS BACK IN THE 20TH CENTURY."

Tarantino coordinates the entire Putnam Park Encampment and is pleased to put it on at what he considers one of the best-suited parks in the country for this kind of event. "The overall layout and topography of the park is just perfect," he said, comparing it favorably even to larger sites in other states. He is particularly excited about this year's events. The Encampment has drawn as many as 10,000 spectators in the past when it was held during the summer months; now that it has been moved to late September, Tarantino hopes even more people can come

see it.

This is the 12th annual Encampment, and this year, in addition to the military shows and battles, a real wedding -- done 18th-century style -- will take place. About a dozen craftspeople will display and sell period merchandise. The entire weekend is a trip back in time. Not only are no 20th-century reminders allowed, but the whole camp "will be run on an 18th century military basis," according to the regulations.

THIS IS A PERSPECTIVE on Connecticut history that you won't get in history books. It's a chance to breathe the air of the Revolutionary War years and experience both its excitement and its frightening realities. The Putnam Park Encampment is free and open to the public beginning at 11 a.m. Saturday, September 29. The wedding ceremonies and a battle will take place that afternoon. More public demonstrations, drills, a parade, and a second battle will take place Sunday, September 30, between 11 a.m. and 3 p.m. Putnam Park is located in Redding at the Junction of Routes 58 and 107. For further information on the Encampment and Reenactment, phone (203) 938-2285. ■



The eternal soldier. At the Putnam Encampment, the common bond that unites all soldiers of all wars can be seen.

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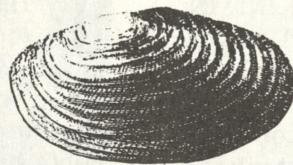
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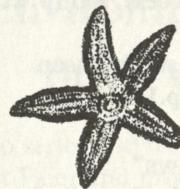
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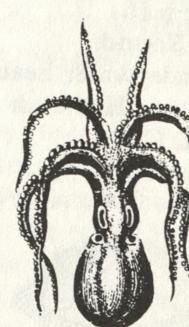
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<p>Emergency Measures" Nov. 89; p.7</p> <p>Parks</p> <ul style="list-style-type: none"> “Bluff Point State Park” by Thomas S. Robinson Nov. 89; p.9 Parks <ul style="list-style-type: none"> “New Access Ramp at Gillette Castle” by Thomas Robinson Mar. 90; p.16-17 Parks <ul style="list-style-type: none"> “Parkviews” Talcott Mt. State Park by Jessica Medoff Shenipsit State Forest by Timothy Loftus Oct. 89; p.21-22 Parks <ul style="list-style-type: none"> “A visit to Gay City” by Erica Jorgensen May 90; p.14 Passenger Pigeon <ul style="list-style-type: none"> “Remembering the Passenger Pigeon” from The Birds of Connecticut by John H. Sage and LL. Bliss Sept. 89; p.11-13 	<p>Rivers</p> <ul style="list-style-type: none"> “Rivers Survey” Feb. 90; p.17 <p>Rowlands, Chris</p> <ul style="list-style-type: none"> “The Wild World of...” by Erica Jorgensen July/Aug. 90; p.11-13 <p>Sand Barrens</p> <ul style="list-style-type: none"> “Our Dwindling Sand Barrens” by Megan Rollins Feb. 90; p.11-13 <p>SEARCH</p> <ul style="list-style-type: none"> “Notes from the SEARCH kids” 1. In Search of Self 2. Creatures of the Night 3. Serious Pizzaman on the Trail 4. Night Life 5. Victory over Paranoia Dec. 89; p.7-8 <p>Shellfishing</p> <ul style="list-style-type: none"> “Shellfishing in Connecticut” by Robert Schneiders Jan. 90; p.3-6 <p>Sherwood, Mary Pasco</p> <ul style="list-style-type: none"> “The First Lady of Wildflowers” The Natural Historian by Carol K. Davidge June 90; p.7 <p>Solar Energy</p> <ul style="list-style-type: none"> “Glasnost and Alternative Energy” by Lisa Garafola July/Aug. 90; p.9-10 <p>Solid Waste (disposal)</p> <ul style="list-style-type: none"> “Turning over an Old Leaf” by Robert Schneiders Oct. 89; p.7-8 <p>Thomas, Hugo</p> <ul style="list-style-type: none"> “DEP Employees Honored” May 90; p.9 <p>Trailside Botanizer</p> <ul style="list-style-type: none"> “A Deadly Bouquet” Mushrooms by Gale W. Carter Oct. 89; p.18-20 <p>Trailside Botanizer</p> <ul style="list-style-type: none"> “American Holly” by Gale W. Carter Dec. 89; p.22 <p>Trailside Botanizer</p> <ul style="list-style-type: none"> “Bearberry” by Gale W. Carter Jan. 90; p.21 <p>Trailside Botanizer</p> <ul style="list-style-type: none"> “Beechdrops” by Gale W. Carter Nov. 89; p.23 	<p>Trailside Botanizer</p> <ul style="list-style-type: none"> “Cow Wheat” by Gale W. Carter July/Aug. 90; p.22 <p>Trailside Botanizer</p> <ul style="list-style-type: none"> “Goldthread” by Gale W. Carter Feb. 90; p.15 <p>Trailside Botanizer</p> <ul style="list-style-type: none"> “Meet the Mustard Family” by Gale W. Carter Mar. 90; p.18-20 <p>Trailside Botanizer</p> <ul style="list-style-type: none"> “Nodding Ladies' Tresses” by Gale W. Carter Sept. 89; p.18 <p>Trailside Botanizer</p> <ul style="list-style-type: none"> “The Pink Valley” by Gale W. Carter May 90; p.19-21 <p>Trailside Botanizer</p> <ul style="list-style-type: none"> “The Snapdragon Family” June 90; p.19-21 <p>Water</p> <ul style="list-style-type: none"> “Water Trivia” 50 questions Sept. 89; p.7-8 <p>Water Management</p> <ul style="list-style-type: none"> “The New Aquifer Protection Act” by Diane Mayerfeld Feb. 90; p.14-15 <p>Water Management</p> <ul style="list-style-type: none"> “Non-Point Sources” by Diane Mayerfeld Jan. 90; p.9-11   <p>Wildlife</p> <ul style="list-style-type: none"> “Connecticut's Bird of Prey” May 90; p. 15-17 <p>Wildlife</p> <ul style="list-style-type: none"> “Wildlife Info. Series” Openings for Wildlife Jan. 90; p. 12-13 <p>Wolves</p> <ul style="list-style-type: none"> “Our Brothers, the Wolves” by Thomas Robinson June 90; p.3-6
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The Bulletin Board

CEQ Report

The State of Connecticut must accelerate environmental progress if it hopes to achieve its own goals by the year 2000, according to a report issued by the Council on Environmental Quality (CEQ).

The report is the Council's annual Environment/2000 Progress Report. Environment/2000 is the name given to the statewide environmental plan that was signed by Governor William A. O'Neill in 1987. The plan includes objectives for 42 issues to be achieved by the year 2000. The CEQ was given the responsibility of reporting each year on the state's progress toward those objectives.

"Air quality and shellfish production are two areas where the state has made discernible progress," said Gregory A. Sharp, Council chairman. "But progress appears to be at a standstill for many of the other issues."

The report states that "current rates of progress will not allow us to reach the '100 percent of objective' target, or anywhere close, by the year 2000. Slow progress is to be expected, since less than three years have elapsed since the Environment/2000 Plan was adopted."

"On the other hand," the report continues, "the year 2000 is but 10 years away. Twice as much time has passed since the first Earth Day, when the nation identified healthful air and sewage-free rivers as high priorities. If we have not yet achieved two thirds of our basic objectives, progress will have to accelerate -- often against the force of ever-increasing costs for each incremental unit of improvement."

Sharp said that he expected to see some of the trends show improvement in the next few years, thanks in part to recent actions by Governor O'Neill and the General Assembly.

Significant financial commitments to the state Clean Water Fund and Long Island Sound in 1989 and 1990 will probably yield improvements in water quality indicators in

three to five years," Sharp said.

Sharp noted that some of the 42 issues do not yet have firmly-established objectives. "As a result," Sharp said, "we cannot really say if we are making progress on these issues or not." The lack of readily-measurable objectives is a problem the Council is working on with the DEP, Sharp said.

The CEQ is a nine-member panel, independent of the DEP, that reports annually on the state's environmental conditions, advises other state agencies, and investigates citizen complaints. Members are appointed by the governor, the president *pro tempore* of the State Senate, and the speaker of the house.

Copies of the report are available to the public. Write or call the Council on Environmental Quality, Room 239, 165 Capitol Avenue, Hartford, CT 06106. Phone (203) 566-3510. ■

Dinosaur State Park

The following lecture will take place at Dinosaur State Park in Rocky Hill: "The Magic of the Chinese Garden Experience" on September 18, 1990, 7:30 p.m. Lecturer will be Mark Lavoie, Director of Stanley Park, Westfield, Mass.

This lecture will explore the history, philosophy, and evolution of gardening concepts in China. Through the use of reflecting pools, fragrances, sounds, wooden structures, stone formations, and plantings, the Chinese seek to create a unique experience for the viewer. Lavoie will detail his travels to China in 1985 when he was a member of the United States horticultural delegation.

Admission is \$2.50. A series ticket to all six lectures in the series is available for \$12.50. Admission is free for Friends of Dinosaur Park Association Members.

Dinosaur State Park is located on West Street, Rocky Hill, CT 06067, ex-

it 23 off I-91. For further information, phone (203) 529-8423. ■

Environment on TV

The video series *Environment*, hosted by Robert Paier and produced by Sandra Sprague, continues to address environmental issues in Connecticut in a lively and informative manner. At this time, *Environment* may be seen on the United Artists/Plainville public access station on Mondays at 8:30 p.m. and on Simsbury Community Television on Wednesdays at 9:00 p.m.

Now entering its second year of production, *Environment* has been seen throughout much of Connecticut and by many environmental groups. New programs on insects, nuclear energy, whales, archaeology, Earth Day festivals, the legacy of Chernobyl, rattlesnakes, astronomy, and many more have been produced.

For information on how to have *Environment* shown in your area, or to purchase tapes of any of the programs, please phone (203) 693-1059. ■

White Memorial

The Ninth Annual Family Nature Day, sponsored by the White Memorial Conservation Center, will be held on Saturday, September 22. This will be an enjoyable day outdoors offering nature-oriented activities for children and adults, with feature program "Whales and Tales" by Chris Rowlands offering sing-alongs, stories and facts. There will also be a performance of "Folktales Soup" by the Crabgrass Puppet Theatre. Activities will run from 11 a.m. to 5 p.m. on the grounds of the White Memorial Foundation South of Route 202 between Litchfield and Bantam, Connecticut. For more information call the Center at (203) 567-0857. ■

New DEP Research Vessel

A new marine research vessel named after the late Governor John Dempsey was officially delivered to the Connecticut DEP last month in Pascagoula, Mississippi. Staff members from the DEP's Marine Fisheries Division were present in Mississippi to accept the vessel after it successfully completed its sea trials.

"We are proud to add this research vessel to our Long Island Sound management program," said DEP Commissioner Leslie Carothers. "The late Governor Dempsey was strongly committed to environmental conservation and was influential in the implementation of Connecticut's Clean

Water Act in the late 1960s."

A dedication ceremony took place after the vessel arrived in Connecticut in August. The DEP is also planning various events to introduce *The John Dempsey* to members of the media and public.

The 50-foot aluminum vessel is capable of bottom trawling, sediment and water sampling, and deployment of large sampling devices and acoustic sampling equipment. It also contains laboratory space for three researchers. This vessel will be used to continue a living marine resource survey begun in 1979 and to expand the DEP's water quality efforts and Long Island Sound research.

The John Dempsey was designed by the naval architectural firm of Woodin and Marean of Wiscasset, Maine, and constructed by Sea-Fab, Inc., of Pascagoula.

New Publication

The Stratford Conservation Commission has published a new booklet titled *An Introductory Guide to Stratford's Natural Environs*. The 26-page work details the major preserved areas of the town, describing the plant and animal communities inhabiting them. Other points covered are hunting and fishing suggestions, scenic views, access points, and historical background. Original drawings accompany the text. Proceeds from this publication will fund future conservation projects. For a copy, please send a check for \$2.50 to: Stratford Conservation Commission, Town Hall, Room 210, 2725 Main Street, Stratford CT 06497.

Trailside Botanizer

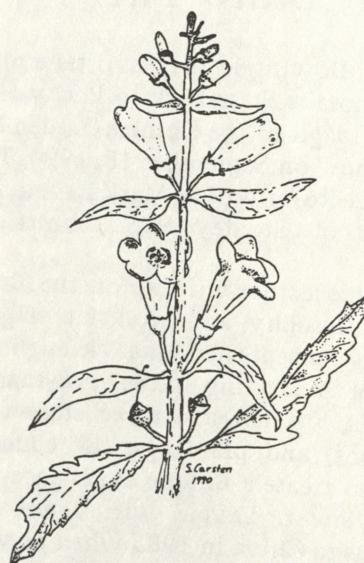
False Foxglove

by
Gale W. Carter
Illustration by
Susan Carsten

YELLOW FALSE FOXGLOVE (*Gerardia flava*) has a beautiful eye-catching flower. Its smooth, often purplish, stem is usually branched, generally growing up to three to six feet in height, but may be taller.

The leaves are somewhat variable with the large lower leaves deeply cut and the upper smaller leaves toothed or without teeth.

Its yellow funnel-shaped flowers develop from the axils of the upper leaves. They appear several at a time in a raceme. Each flower may be as much as two inches in length with short flower stalks no less than 1/6 of an inch. The outside of the flower is smooth while the inside throat is densely hairy. There are four stamens



and one pistil. Blossoming time is from July to September. The fruit is a smooth, pointed capsule.

Look for this species in clearings and deciduous forest margins, particularly oak woods.

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The genus name honors John Gerarde (1546-1611), a celebrated herbalist and author of the famous book *The Herbal*. Some taxonomists, however, prefer to place the false foxgloves in the genus *Aureolaria*. The species name *flava* is Latin for yellow, which describes the color of the flower. Its common name originated because of the slight resemblance of the flower to that of the true foxglove, *Digitalis*.

There are two other species of false foxglove in our area, the fern-leaved (*Gerardia pedicularia*) and the downy (*Gerardia virginica*). The false foxgloves can be distinguished one from another by small details such as differences in the leaf, degree of hairiness or lack of hairs, and the length of the flower stalk.

The fern-leaved false foxglove has a hairy, sticky stem, flower stalks 2/5 to one inch long, and lacy fern-like leaves. The downy false foxglove has a hairy stem and leaves and flower stalks less than 1/6 of an inch.

All false foxgloves are somewhat parasitic on the roots of deciduous trees, particularly oaks.

The Night Sky

The Galactic Perspective

by
Francine Jackson

YES, IT'S SEPTEMBER. Once again, autumn begins, this time at 2:58 a.m. Sunday, the 23rd. For us, it means cooler and longer nights, a perfect time to enjoy the beauty of the evening sky.

Right now, for your viewing pleasure, one of the more spectacular sights is directly overhead. Unfortunately, to see as the ancients did, you must find a dark place away from artificial lights, because they compete with, and

win over the light of the Milky Way.

Given its name because of its resemblance to spilt milk, the Milky Way arcs across the sky from the northeast to the southwest this month. Although with the unaided eye it does look like a thin white sheet, a pair of binoculars will reveal its secret: millions of stars clustered so closely together they lose their individuality without optical aid. And what you're seeing is a small part of our giant neighborhood: the Milky Way Galaxy.

A galaxy is a group of hundreds of millions of stars, seemingly arranged in only a few distinct patterns. Our galaxy appears to be one of the most common, a spiral galaxy, essentially shaped like one of those pinwheels you

used to get at carnivals — a thick, roundish, lumpy center with spiral arms radiating from it. The Milky Way you see overhead these nights is one of those arms.

The center of our galaxy appears to be in the section of sky belonging to the constellation Sagittarius, the Archer. It is the pattern that resembles a teapot, low in the southwest this month. If you have trouble finding it, we have a couple of guides to help you. First, the bright "star" seen in the southwest is actually the planet Saturn. At this time, Saturn is just east, or to the left, of the teapot. Also, on the night of the September 27, the first quarter moon will be situated on top of the spout, just to the right of the lid.

Letters to the Editor

Thanks are in order to Doug Radziewicz for sharing his world of the mysterious wolf and to Thomas Robinson for writing such a special, all-absorbing story (*Connecticut Environment* June/1990). How is that stories like these always seem to teach us more about ourselves than about the animals they feature?

Tom Turick
Burlington

It seems that each issue is more interesting than the last. Our state of Connecticut is a wondrous land, in spite of all the "people pollution."

David B. Allen
Westport

I have recently subscribed to *Connecticut Environment* and I'm hooked. For years I have been looking for a publication which addresses both local and global environmental issues, encourages recycling, explores alternate energy sources, and promotes increased awareness and respect for the environ-

ment in general. *Connecticut Environment* does all these things. More importantly, your publication stresses the importance of the individual's actions in making a change for a better environment.

I was very impressed with the article in the July/August issue dispelling the myth of the "killer wasp." I am overjoyed to see that some attention is being brought to insects as friends of man rather than as threatening pests. So many people are terrified of all insects in general, and are not aware of their vital role in the food chain. It is good to see insects get some positive press for a change.

Your publication provides a diversity of topics, and each holds my attention.

Colin Jeffries
Hartford

Everything you write about is real groovy. Keep up the great work. Remember -- think green. Peace.

Robert Zack
Forestville

I enjoy reading the different departments such as nature, astronomy, and what Connecticut has as far as state parks and tourism. It's nice to read something strictly focused on this state. I have a much better appreciation and understanding of the environmental issues.

Clorinda Cuomo
North Haven

Endnote

"One summer day, while I was walking along the country road on the farm where I was born, a section of the stone wall opposite me, and not more than three or four yards distant, suddenly fell down. Amid the general stillness and immobility about me the effect was quite startling. It was the sudden summing up of half a century or more of atomic changes in the material of the wall. A grain or two of sand yielded to the pressure of long years, and gravity did the rest."

John Burroughs



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